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There has also been observed in *Trichoplax* a most interesting process of conjugation, in which two individuals become joined so completely as to leave no trace of the point of fusion. This process is preparatory to mechanical fission or architomy. That it always precedes this reproduction is yet to be proved. No other method of generation has been observed.

From the above facts is drawn the conclusion that *Trichoplax* cannot, as has been claimed by the advocates of Haeckel's *Gastræa* theory, be considered as a flattened gastrula. Neither is it related to the Plathelmintha, as stated by Böhmig, since the acœlous condition of certain Turbellaria is secondary, but that of *Trichoplax* is evidently ancestral.

The author considers it unnatural to place *Trichoplax* and the closely allied *Treptoplax* in a special group, the *Placulæadæ*, and to set them as the simplest type of the multicellular animals, *Protacœlia*, at the foot of the metazoan stem. It is claimed that the mere fact that the *Protacœlia* are not hypothetical, like the *Gastræa*, but really exist, is in itself disproof of Haeckel's gastræal phylogeny; that there is danger that the advocates of this theory, in their zeal for proof of the minutiae may neglect the broader facts of development, which point so evidently to a varied origin of the Metazoa.

Trichoplax then, while it does not support the *Gastræa* theory, may yet serve as an important factor in the development of the true theory of metazoan embryology.

HARRISON S. ALLEN.

Notes. — *Gephyrea*, collected at Christmas Island, Indian Ocean, are described by Shipley (*Proc. Zool. Soc.*, London, Jan. 17, 1899). Of the six species listed only one, *Thalassema baronii* Greef, is rare. In the same paper, *Physcosoma japonicum* Grube is reported from the coast of British Columbia, though previously known only from the western shores of the Pacific Ocean.

The supposed occurrence of *Synganus trachealis*, the gape worm, in the domestic duck, as recorded by various authors, has been definitely shown by Railliet (*Arch. Parasit.*, Vol. I, No. 4, pp. 626, 627) to be due to the mistranslation of an English letter!

Recent work on the Myxosporidia is the subject of a comprehensive review by Doflein (*Zool. Centralbl.*, Vol. I, pp. 361-379). Of great general importance is noted the opinion of the author that with better knowledge of both groups this order is approaching the Rhizopoda.

In the *Proceedings of the Academy of Natural Sciences of Philadelphia* for 1899 (p. 179) Mr. Henry A. Fowler describes a small collection of fishes sent to the academy from Tan-lan-ho River in China. The new species are: *Leuciscus farnumi*, *Leuciscus costatus*, *Nemachilus dixonii*, and *Nemachilus pechiliensis*. Mr. Fowler also (p. 118) publishes a short list of fishes of Jamaica in collections in Philadelphia. Of the twenty-five species none are new, although two or three are not common in collections.

The belated concluding number of Vol. XIV of the *Journal of Morphology*, dated September, 1898, has just appeared and contains the following articles: Budding in Perophora, by G. Lefevre; On the Morphology of Certain of the Bones of the Cheek and Snout of *Amia Calva*, by E. P. Allis, Jr.; The Location of the Basis of the Amphibian Embryo, by A. C. Eycleshymer; and The Cocoons and Eggs of *Allolobophora Fœtida*, by Katharine Foot.

The last number of the *Journal of Comparative Neurology*, Vol. IX, No. 2, contains, besides the usual editorial and literary notices, Nerve Termini in the Skin of the Common Frog, Part I, by G. E. Coghill; The Number and Arrangement of the Fibres forming the Spinal Nerves of the Frog, by Irving Hardesly; The Total Number of Functional Nerve Cells in the Cerebral Cortex of Man, and the Percentage of the Total Volume of the Cortex composed of Nerve Cell Bodies, calculated from Karl Hammarberg's Data, together with a Comparison of the Number of Giant Cells with the Number of Pyramidal Fibres, by H. B. Thompson; A Note on the Significance of the Small Volume of the Nerve Cell Bodies in the Cerebral Cortex of Man, by H. H. Donaldson.

BOTANY.

Weber's Cacti in Bois's Dictionnaire d'Horticulture.¹—The compiler of this dictionary was fortunate in securing, as one of the many associate editors, Dr. Albert Weber as the authority for the order Cactaceæ. This was a wise selection in view of the fact that in all probability no other man to-day has such rich opportunities for studying the order, or has given so much careful consideration to it as Dr. Weber.

¹ Bois, D. *Dictionnaire d'Horticulture*. Paris, 1893. 4to.